# CHAPTER 50
# AIRCRAFT

NICC is the sole source for large transport aircraft holding Federal Aviation Regulations (FAR) Part 121 Certificates and for Type 1 and 2 Call-When-Needed (CWN) Helicopters

Cooperator aircraft (State contracted, State owned, State managed National Guard aircraft, county, city, or other) may be used on federal fires under the following conditions:

- The pilot and aircraft have been approved in writing for the aircraft and the mission by either the FS or the Office of Aviation Services (OAS).
- There exists a written MOU (Memorandum of Understanding), Interagency Agreement, or other document that authorizes this use and payment for this use.
- The cooperator aircraft will be operated within any limits on its use established in the written approval.
- The cooperator aircraft will be used only in situations where federal aircraft are not reasonably available.
- The cooperator aircraft will be released when federal aircraft become reasonably available.
- Use of cooperator-owned aircraft prior to exhausting contracted resources must involve a "significant and imminent threat to life or property."

## Aircraft Mobilization

When a Geographic Area has depleted local and available aircraft resources, request(s) will be placed with NICC. Aircraft assigned will become the receiving Area's resource until released. The following terminology will be used when requesting aircraft through NICC:

- Knots (kts) will be the standard term used to reference airspeed.
- VORs (Very High Frequency Omni-directional Range) will be used to reference direction.
- Latitude and longitude must be provided in Degrees Decimal Minutes (DDM), utilizing GPS Datum WGS84degrees and minutes.
- Aircraft registration numbers will be used when referencing helicopters, lead planes, and air attack aircraft. Airtankers and SEAT's will be referenced by the airtanker number; e.g., T-00.

The following selection factors will be used when ordering aircraft:

- Airtankers: Loaded or empty (two [2] hour maximum flight when loaded, except for the VLATs).
- Timeliness.
- Cost effectiveness.
- Performance specifications for density/high altitude operations.
- Appropriately carded.
- Special applications such as special-use flights, tundra pads, float, etc.

## Initial Attack Load

When smokejumpers are needed jump-ready for initial attack with aircraft, they are to be requested in ROSS as "Load, Smokejumper, Initial Attack" on an Aircraft request. Specifying the delivery system is not permitted. The sending unit will fill the request with a roster in ROSS or by forwarding a manifest form, with name and agency identification, through the established ordering channels. This information can be acquired after the jumpship is airborne. Any intent to retain Smokejumpers which have not been utilized as an IA load will be negotiated between the GACCs and NICC. GACCs pre-positioning smokejumpers when multiple starts are occurring or predicted will specify the anticipated duration. If not deployed during this period, smokejumpers will be made available for higher priorities, unless longer duration is negotiated between the GACCs and NICC.

Smokejumpers held as boosters after release from the first IA assignment will be placed on an Overhead order using individual "O" requests. Smokejumpers recovered and mobilized to another assignment, internally or across Geographic Area boundaries, will also be placed on an Overhead order.

Aircraft delivering Initial Attack smokejumpers will return to the sending base or a designated airport before the end of the pilot's daily flight or duty limitations. Any intent or necessity to retain the aircraft will be negotiated between NICC and the GACCs. If the aircraft is retained past the first operational period, it will be placed on an Aircraft request through established ordering channels.

## Aircraft Demobilization

Flight Following will be performed on all Government or exclusive use contract aircraft being demobilized. NICC will release charter and CWN aircraft to the vendor without flight following provided no Government personnel or cargo is on board. All aircraft release information will be entered in to ROSS.

## Flight Management Procedures

### National Flight Following Frequency (168.6500 MHz)

The National Flight Following Frequency is used to monitor interagency and contract aircraft. All aircraft on point-to-point or mission flights should establish/terminate flight following, and confirm Automated Flight Following (AFF) on the National Flight Following frequency. All dispatch centers/offices will monitor the National Fight Following frequency at all times. A CTCSS tone of 110.9 must be placed on the transmitter and receiver of the National Flight Following frequency. The National Flight Following frequency is to be used for flight following, dispatch, or redirection of aircraft. No other use is authorized.

### Types of flights:

**Point-to-Point.**
Point-to-point flights originate at one developed airport or permanent helibase, with a direct flight to another developed airport or permanent helibase. These types of flights are often referred to as "administrative" flights. These flights require point-to-point approved pilots and aircraft. A point-to-point flight is conducted higher than 500 feet above ground level (AGL) except for takeoff and landing.

**Mission Flights.**
Mission flights are those flights that do not meet the definition of a point-to-point flight. These types of flights are often referred to as "tactical" flights. A mission flight requires work to be performed in the air (such as retardant or water delivery, reconnaissance, smokejumper delivery, sketch mapping), or through a combination of ground and aerial work (such as delivery of personnel and/or cargo from a helibase to an unimproved landing site, rappelling, cargo let-down, or wild horse herding). The pilot and aircraft must be agency approved (carded) for the mission being performed.

**FAA Flight Plans and Flight Following.**
All flights conducted under FAA Instrument Flight Rules (IFR) are automatically provided FAA flight following. Administrative flights conducted under Visual Flight Rules (VFR) flight plans require the pilot to file a flight plan with the appropriate FAA facility. The pilot must request FAA flight following. Air Traffic Control (ATC) may or may not provide it. It is the pilot's responsibility to confirm with dispatch which type of FAA flight plan will be used. The pilot shall close out the flight plan with the FAA once the flight is completed. FAA flight plans and flight following are generally used for point-to-point flights and the pilot or flight manager will contact dispatch with an estimated time of departure, estimated time enroute and close out with dispatch once the aircraft is on the ground to accomplish resource tracking.

**Agency Flight Plans and Flight Following.**
Agency flight plans are the responsibility of the originating dispatch office and are documented on a Flight Request/Flight Schedule or an Aircraft Resource order for mission flights. For mission flights, there are two types of Agency flight following: Automated Flight Following (AFF), and Radio Check-in. AFF is the preferred method of agency flight following. If the aircraft and flight following office have AFF capability, it shall be utilized. Periodic radio transmissions are acceptable when utilizing AFF. (See AFF procedures below for more information). Radio Check-in/Check-out flight following requires verbal communication via radio every 15 minutes. The dispatcher will log the aircraft call sign, latitude, longitude and heading. Agency flight following is used for all mission flights. All aircraft operating on Agency flight plans shall monitor Air Guard. Helicopters conducting Mission Flights shall check-in prior to and immediately after each takeoff/landing per IHOG 4.II.E.2. For point-to-point flights, AFF flight following may be used as well. The pilot or flight manager will, as a minimum, contact dispatch prior to the flight with an estimated time of departure, estimated time enroute, souls and fuel on board and will close out with dispatch once the aircraft is on the ground. Flight following is the responsibility of the originating dispatch office and will remain so until transferred through a documented, positive handoff. The flight following dispatch office shall be continually staffed while an aircraft is airborne. Confirmation of an aircraft's arrival at a specified destination is required to ensure that a flight has been completed safely. It is the pilot's responsibility to close out a flight plan. If an aircraft is overdue, it is the receiving dispatcher's responsibility to initiate aircraft search and rescue actions. Flight following problems are documented through the SAFECOM system.

NICC will Resource Track all aircraft crossing Geographic Area boundaries, which have been ordered through NICC on:

- Aircraft Orders.
- Flight Requests.
- IA Smokejumper Orders.

## Responsibilities

SENDING UNIT – The Sending Unit is the dispatch unit which sends the aircraft from the vendor or Government aviation unit.

RECEIVING UNIT – The Receiving Unit is the dispatch unit which is receiving the resource.

**Responsibilities of the Sending Unit:**

- Obtain actual time of departure (ATD) and estimated time of arrival (ETA) from the initial departure airport from pilot/vendor.
- Relay the ATD, ETA, and method of Flight Following (agency or FAA) to the Sending Unit's GACC via established ordering channels.
- Notify the GACC of any route changes, and of any delay or advances of a flight plan exceeding thirty (30) minutes.
- Assist with search procedures for overdue aircraft. Utilize agency aircraft search/rescue guides, as appropriate.
- On any flight requiring stops en route to a destination, instruct the Pilot-In-Command or Flight Manager to contact NICC at (800) 994-6312. Aircraft support vehicles should contact NICC at fuel stops.

**Responsibilities of Sending GACC:**

- Sending GACC will relay the flight itinerary to NICC via email or fax.
- Notify NICC of any route changes, and of any delay or advances of a flight plan exceeding thirty (30) minutes.
- Assist with search procedures for overdue aircraft. Utilize agency aircraft search and rescue guides, as appropriate.

**Responsibilities of NICC:**

- Relay flight itinerary to the receiving GACC by email or fax.
- Notify receiving GACC of any route changes, and of any delay or advances of a flight plan exceeding thirty (30) minutes.
- Resource track tactical aircraft to specified destinations.
- Monitor flight plans for additional utilization.
- Responsibilities of Receiving GACC:
- Relay flight itinerary to the Receiving Unit by email or fax.
- Notify Receiving Unit of known delays/advances of a flight plan exceeding thirty (30) minutes.
- Confirm arrival of all tactical aircraft to NICC by telephone; notify NICC of any aircraft overdue by more than thirty (30) minutes.
- Assist with search procedures for overdue aircraft. Utilize agency aircraft search and rescue guides, as appropriate.

**Responsibilities of Receiving Unit:**
- Confirm arrival of all tactical aircraft by telephone to Receiving GACC.
- Notify Receiving GACC of any delays of a flight plan exceeding thirty (30) minutes; notify receiving GACC of any aircraft overdue by more than thirty (30) minutes.
- Initiate/assist with search procedures for overdue aircraft. Utilize agency aircraft search and rescue guides, as appropriate.

## Automated Flight Following (AFF) Requirements and Procedures

AFF reduces the requirement to "check in" via radio every 15 minutes, and provides the dispatcher with a wide range of information on the flight, airspace, and other data that may be pertinent to the flight. This reduces pilot workload, clears congested radio frequencies, and provides the dispatcher with much greater detail and accuracy on aircraft location and flight history.

**Requirements to Utilize AFF:**
- Automated flight following does **NOT** reduce or eliminate the requirement for aircraft on mission flights to have FM radio capability, and for the aircraft to be monitoring appropriate radio frequencies during the flight.
- Procedures for flight requests, ordering aircraft, requirement for a Flight Manager, etc., are the same as radio check-in procedures.
- The aircraft must be equipped with the necessary hardware (transmitter and antenna).
- The dispatch office responsible for the flight following must have a computer connected to the Internet immediately available to them in the dispatch office. Dispatch office(s) responsible for flight following shall be staffed for the duration of the flight.
- Training: The flight following dispatcher must have a working knowledge of the automated flight following program (Web tracker) and must have a current username and password for the automated flight following system.

**Procedures for Utilizing AFF:**
- When an aircraft is ordered, or a user requests flight following from a dispatch office, and the above listed requirements are met automated flight following shall be utilized.
- The dispatch office will log on to the automated flight following web site, verify that the aircraft icon is visible on the screen, and be able to quickly monitor this page at any time during the flight.
- The dispatch office will provide the pilot with FM frequencies and tones that will be monitored for the duration of the flight.
- The pilot will relay the flight itinerary, ETD, ETA and fuel on board to the dispatch center.
- When aircraft is initially airborne, and outside of sterile cockpit environment, the pilot will contact the dispatch office via radio stating "Nxxxx off (airport or helibase name), ATD, SOB, FOB and ETE on AFF". Dispatch office shall respond "Nxxxx, (dispatch call sign) AFF." This is required to positively verify that both the aircraft and the dispatch office are utilizing AFF, radios are operational, and that the dispatcher can "see" the aircraft on the computer screen. If there is a problem at this point, change to radio 15-minute check-in procedures until the problem is resolved.
  - If radio contact cannot be established the pilot will abort the mission and return to the airport/helibase.

- If there is a deviation from the planned and briefed flight route, the pilot will contact the dispatch office via radio with the changed information.
- The dispatch office will keep the AFF system running on a computer for the entire flight and will set a 15-minute timer and monitor the computer at a minimum and document, for the duration of the flight.
- If the aircraft icon turns RED, it means the signal has been lost. Immediately attempt contact with the aircraft via radio and follow normal lost communication, missing aircraft, or downed aircraft procedures as appropriate. If radio contact is made after a lost signal, flight may continue utilizing 15-minute radio check-ins for flight following. (During tactical operations below 500' a periodic red indication is normal and does not necessitate an 'immediate' contact especially if flight following has been established with the incident. This should be addressed during the pre-flight briefing.)
- When the aircraft has completed the flight and landed, the pilot or flight manager (passenger, observer, Flight Manager, ATGS, etc.) shall contact the dispatch office via radio or telephone informing them that they are on the ground.
- If the flight will cross "traditional dispatch boundaries," the originating dispatch office must coordinate with affected units, and establish if the aircraft will be flight followed for the duration of the flight from the originating office or handed off when the border is crossed. Either option is acceptable but must be communicated and understood between dispatch offices and pilots/flight managers.

**Additional information about AFF can be found at: https://www.aff.gov/**

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## Airtankers

Airtankers are National Resources and their primary mission is initial attack operations. The NICC will prioritize and allocate federal airtankers by positioning them in areas of current or predicted high wildfire danger or activity. Geographic Areas managing these aircraft will make them available for wildland fire assignments when ordered by NICC. This will be accomplished by ensuring that all support functions (i.e. airtanker Bases and Local Dispatch Centers) that are required for the mobilization of national assets (i.e. Airtankers, Lead Planes, ASM's, and Type 1 and 2 Helicopters) are staffed and maintained to support mobilizations. When a Geographic Area has depleted available VLAT or Large Airtanker (Type 1 or 2) resources, request(s) will be placed with NICC. Large Airtanker initial attack agreements between neighboring unit level dispatch centers are valid only where proximity allows the airtanker to respond loaded direct to the incident.

There are five (5) types of airtankers:

| Type | Capacity (Minimum) |
|---|---|
| VLAT | 8,000 gallons or more |
| 1 | 3,000 to 7,999 gallons |
| 2 | 1,800 to 2,999 gallons |
| 3 | 800 to 1,799 gallons |
| 4 | Up to 799 gallons |

### Airtanker Use In Optional and Post Season Periods

Post Season and Optional Use airtanker activations are processed by the Contracting Officer (CO), through the Designated Administrative Contracting Officers (ACO).

The following process is used to activate airtankers during the Post Season and Optional Use periods:

- The requesting GACC will place request(s) for airtankers with NICC.
- NICC will notify the CO or designated representative of request(s).
- The CO or designated representative and NICC will determine the availability of airtankers and will notify the national airtanker inspector(s), if needed. The CO or designated representative will notify the ACO of the contract item to be activated.
- NICC will notify the GACC of the airtanker activation.
- NICC will request the airtanker from the appropriate vendor.

For a list of all federal airtankers, refer to the following web site:
http://www.nifc.gov/nicc/logistics/aviation/Federal_Contract_Air_Tanker_List.pdf

## Modular Airborne Firefighting Systems (MAFFS)

- Objectives

  MAFFS provides emergency capability to supplement commercial airtankers on wildland fires.

- Policy

  MAFFS are National Resources and are used as a reinforcement measure when contract airtankers are committed or not readily available. MAFFS will be made available to assist foreign governments when requested through the Department of State or other diplomatic Memorandum of Understanding (MOU).

- Responsibility

  Geographic Areas are responsible for ascertaining all suitable commercial airtankers are assigned to wildland fires or committed to initial attack before placing a request for a MAFFS Mission to NIFC. For additional information, see the MAFFS Operating Plan.

- NIFC Responsibility

  NIFC is responsible for ascertaining that all suitable commercial contract airtankers nationally are committed to wildland fires, initial attack, or cannot meet timeframes of requesting units. When this occurs, the Duty Coordinator will notify the FS Assistant Director for Operations, NIFC. The FS Assistant Director for Operations or his/her acting, NIFC, or in his/her absence, the FS Assistant Director for Aviation, Fire and Aviation Management Washington Office, is responsible for initiating a MAFFS mission. Once approval is given, the NICC Manager activates the request through proper DOD channels.

  After the initial contact has been made, the NICC will submit a Request for Assistance (RFA) to the DOD Liaison at NIFC. The Governors of California, Wyoming, and North Carolina may activate their respective Air National Guard Units having MAFFS equipment and qualified crews for State-controlled fires. Approval for use of MAFFS equipment must be obtained from the FS Assistant Director for Operations, NIFC, prior to this activation.

  When MAFFS are activated by a governor, the FS Regional Office for that State will assign an accounting code for the incident.

  - Ordering Criteria
    - FS domestic requests will be placed through established ordering channels to NICC.
    - NICC will place a Request for Assistance (RFA) to the NIFC Defense Coordinating Officer (DCO). The DCO places the RFA concurrently with the US Northern Command and the Joint Directorate of Military Support for approvals.
    - The requesting Geographic Area needs to order the following support:
      - 1 each MAFFS Liaison Officer (MLO aka MAFF) and 1 each MLO trainee
      - 1 each Airbase Radio Kit (NFES 4660)
      - 1 each MAFFS Communications Specialist (THSP)
      - 1 each Assistant MAFFS Liaison Officer.
      - 1 each MAFFS Airtanker Base Manager (MABM) and 1 each MABM trainee
      - Logistics, Finance, and Information personnel
    - MAFFS Operations must also include a MAFFs qualified Lead Plane.

The Receiving Unit must be prepared to provide administrative support (procurement, motel rooms, phones, office space, clerical and timekeeping support, transportation) to accommodate as many as 26 people per two (2) aircraft. Refer to the current MAFFS Operating Plan for specifics.

### Single Engine Air Tankers (SEATs)

Single Engine Air Tankers (SEATs) under an On-Call or an Exclusive Use Contract are solicited and inspected by the OAS and other federal agencies. The SEAT module includes a support vehicle with batch mixing capability for wet and dry retardant. They are available for interagency use and will be requested through established ordering channels. If the ordering office cannot provide a SEAT Manager for a SEAT, the SEAT Manager will be requested on an Overhead order. For additional information, see the Interagency SEAT Operations Guide (ISOG), NFES 001844.

## Lead Planes

Lead Planes are National Resources. Areas administering these aircraft will make them available for wildland fire assignments when ordered by NICC, if not currently committed to fires. Requests for lead planes may be filled with an ASM. Aerial Supervision Modules (ASM)

The ASM is a fixed wing platform that utilizes two (2) crew members to perform the functions of traditional air attack and low-level lead operations. The ASM requires both crew members to be trained to work as a team, utilizing Crew Resource Management (CRM) skills and techniques to enhance safety, efficiency, and effectiveness. ASMs are National Resources.

Areas administering these aircraft will make them available for wildland fire assignments when ordered by NICC.

For a list of all Lead Planes/Aerial Supervision Aircraft, refer to the following web site:
http://www.nifc.gov/nicc/logistics/aviation/Lead_Planes.pdf

### Smokejumper Aircraft

For a list of all Smokejumper Aircraft, refer to the following web site:
http://www.nifc.gov/nicc/logistics/references/Smokejumper_Aircraft.pdf

## Tactical and Reconnaissance Aircraft

Air Tactical and reconnaissance aircraft are on Call-When-Needed (CWN) and Exclusive Use Contracts solicited and inspected by the OAS and other federal agencies. They are available for interagency use and will be requested through established ordering channels. The ordering office may request the aircraft with specific avionics equipment as shown below.

| Required Equipment | Type 1 | Type 2 | Type 3 | Type 4 |
|---|---|---|---|---|
| Aeronautical VHF-AM radio transceivers | 2 each | 2 each | 2 each | 2 each |
| Aeronautical VHF-FM radio transceivers | 2 each | 1 each | 1 each | N/A |
| Transponder & altitude encoder | Yes | Yes | Yes | Yes |
| Panel Mounted or Aviation Handheld GPS | 1 each | 1 each | 1 each | 1 each |
| TAS (BLM) | Yes | N/A | N/A | N/A |
| Separate audio control systems for pilot and ATGS | Yes | Yes | N/A | N/A |

| Required Equipment | Type 1 | Type 2 | Type 3 | Type 4 |
|---|---|---|---|---|
| An audio control system | N/A | N/A | Yes | Yes |
| Audio/mic jacks with PTT capability in the rear seat connected to the co-pilot/ATGS's audio control system | Yes | Yes | N/A | N/A |
| An intercommunication System | Yes | Yes | Yes | Yes |
| AUX-FM provisions | Note 1 | Note 1 | N/A | N/A |
| AFF | Yes | Yes | Yes | Yes |
| 2 - aeronautical VHF-FM antennas | N/A | N/A | N/A | Yes |
| An accessory power source | N/A | N/A | N/A | Yes |
| A portable Air Attack kit (Note 2) | N/A | N/A | N/A | Yes |

Note 1: Type 1 and 2 aircraft must have either AUX-FM provisions or an additional aeronautical VHF-FM radio transceiver.

Note 2: Air Attack kits may be agency or contractor furnished.

## Helicopters – Call-When-Needed (CWN)

- Type 3 helicopters are solicited and inspected by the OAS and FS Regional Aviation Officers.
- Type 1 and 2 helicopters are solicited and inspected by NIFC. With the exception of Alaska, all Type 1 and 2 helicopters will be dispatched by NICC.

  There are two (2) categories of helicopters:

  - Limited: No government personnel/passenger or internal cargo transport, lift only. See Interagency Helicopter Operations Guide, NFES 001885 for additional information.
  - Standard: Government personnel/passenger and cargo hauling.
- Helicopter Modules

  When processing requests for helicopters, NICC will inform the requesting GACC of the contract type of the assigned resource: Exclusive Use or CWN. Exclusive Use Contract helicopters are mobilized complete with an assigned module. If the request is filled with a CWN helicopter, the requesting Area must provide a module or order a module through NICC. A helicopter manager (HMGB) must be identified and confirmed in the Special Needs block before NICC assigns a CWN helicopter, with the exception of Alaska, due to the extended mobilization time of the aircraft from the Lower 48 to Alaska. CWN helicopter managers and/or modules will meet with their assigned helicopter off-site from the incident prior to performing work. The specific reporting location should be identified on the Resource Order, such as a Fixed Base Operator (FBO) or other easily located site. GACCs will obtain approval from NICC prior to reassigning Type 1 or 2 Helicopters to another incident.

### Exclusive Use Contract Helicopters

- All FS Exclusive Use Type 1 and 2 Helicopters are contracted by NIFC.
- Most FS Exclusive Use Type 3 and 4 Helicopters are contracted by NIFC.
- All Exclusive Use Contract Helicopters for DOI Agencies are solicited, inspected, and contracted by DOI AQD and OAS.
- Exclusive Use Contract Helicopters are dispatched locally by the Administrative Unit.

Periodically, Forest Service Type 1 and Type 2 Exclusive Use Helicopters not within their Mandatory Availability Period (MAP) are hired under their Exclusive Use Contract for optional use periods for incidents or projects. A modification to the Exclusive Use Contract is required for the duration of the incident assignment. The Exclusive Use Contract designates the COR and the Exclusive Use Helicopter Manager. If, the designated FS Exclusive Use Helicopter Manager is not immediately available, the requesting Geographic Area will assign an available Exclusive Use Helicopter Manager to the helicopter until the designated Exclusive Use Helicopter Manager arrives at the incident. The designated Helicopter Manager will then manage the helicopter thereafter. The COR will be notified that the Exclusive Use Helicopter is being dispatched.

## Large Transport Aircraft

Large transport aircraft are National Resources and will be requested through NICC.

- Scheduling: Large transport aircraft arranged by NICC are requested on a per mission basis. Flight Following ATD/ETE will be relayed by the NICC Aircraft Desk for each flight leg.
- Requests for Large Transport: When requesting a large transport aircraft, the following information is required:
  - Number of passengers and/or cargo weight per destination, and combined total weight for the flight.
  - Pick-up point at jetport and time passengers and/or cargo are available to load. NICC requires 48 hour lead time to plan and schedule aircraft for demobilization flights.
  - Pick-up point at the jetport is the Fixed Base Operator (FBO) or gate at the airport terminal where the aircraft will park.
  - Passengers must be weighed and manifested prior to boarding the aircraft.
  - Government or contractor support available at each airport, including contact person and telephone number.
  - All personnel listed on the manifest and flight crew members should be provided at least one sack lunch.

## Airborne Thermal Infrared (IR) Fire Mapping

Infrared equipment and aircraft are National Resources. All requests for infrared flights will be placed with NICC through established ordering channels no later than 1530 Mountain. All requests for infrared services will be on a ROSS aircraft request. Infrared Scanner Request Forms for infrared flights will be created at the National Infrared Operations (NIROPS) website at: http://nirops.fs.fed.us/rcr/scanner/index.php. User accounts can be requested by contacting NIROPS directly. If the website is unavailable, a faxed Infrared Aircraft Scanner Request Form (See Chapter 80) will be submitted for each request. A qualified Infrared Interpreter (IRIN) must be confirmed or in place at the time of the infrared flight.

NICC may assign these resources to a Geographic Area during lower Preparedness Levels (PL). When assigned to a Geographic Area, the GACC will provide a qualified IR Coordinator and provide for Flight Following of assigned aircraft. NICC will flight follow between Geographic Areas.

NICC will maintain the flight scheduling and priority setting for national infrared resources when competition exists.

Flight crews, when assigned to a Geographic Area, will coordinate with the using agency's IR Liaison and IR Coordinator. The IR Coordinator will keep informed of mission priorities, flight times, etc.

Users of Infrared Services should be familiar with the contents of the Infrared (IR) Thermal Mapping Operations Manual, available from the Infrared Operations Specialist at NIFC, (208) 387-5647 or at http://nirops.fs.fed.us/irin.

The objectives of the Infrared Program are:

- Primary: Provide infrared support and services to all agencies engaged in wildland fire activities.
- Secondary: Provide infrared support for other resource projects as priorities, time, and capabilities allow.

## Infrared Aircraft

| Aircraft | Flight Rate Per Hour |
|---|---|
| N144Z – Cessna Citation | $ 1710 |
| N149Z – King Air 200 | $ 1100 |

Rates are subject to change. For further information, contact the FS Region 4 Aviation Operations Office.

## PERFORMANCE

N144Z Cessna Citation

- Block speed – 370 kts.
- IR Scanner speed – 240 kts
- Fuel – Jet.
- Endurance for infrared missions (2 Pilots, 1 Technician) 3.0 Hours (with reserves
- Maximum take-off weight – 14,800 lbs.
- Runway – Hard surface, minimum 4,000 feet @ sea level
- Passenger configuration – 6 passengers + baggage.

N149Z King Air 200 (Cargo Door)

- Block speed – 240 kts.
- IR Scanner speed – 220 kts
- Fuel – Jet
- Endurance for infrared missions (2 Pilots, 1 Technician) 4 Hours (with reserves
- Maximum take-off weight – 12,500 lbs.
- Runway – Hard surface, minimum 4,000 feet @ sea level
- Passenger configuration – 6-8 passengers + baggage
- Cargo configuration – 2,000 lbs. (2 Pilot), 2 + 30 hour endurance (with reserves).

### Capabilities and Limitations:

- Infrared Scanners:
  - Infrared energy can penetrate smoke and haze, but is limited by clouds and fog. Infrared energy follows a line-of-sight path.
  - For best results, imagery should be taken between the hours of 2200-0200 and between one (1) hour after sunset and one (1) hour before sunrise. Imagery flights can be made at other times, but expect degradation in image quality. Fire detection is unaffected by time of day.
- Infrared Aircraft:
  - All USDA Forest Service infrared aircraft deliver imagery via FTP site transfer. The address for the site is: ftp://ftp.nifc.gov. Login username and passwords are provided by the National Infrared Coordinator.
  - A 28-volt, 1,000 amp ground power unit (GPU) should be provided for aircraft starting.

## Temporary Flight Restrictions , FAR 91.137 (TFR)

Temporary airspace restrictions will be established when incident related aviation activities present potential conflict with other aviation activities. The FAA requires that latitude/longitude information for TFRs (Temporary Flight Restrictions) must be provided in degrees, minutes, and seconds, including reference to north latitude and west longitude. If seconds' information is not available, add two (2) zeros to the description. Do not use spaces, commas, or other symbols in the description. Example: ddmmssN/dddmmssW or 450700N/1175005W. The corner points should be listed in a clockwise sequence around the requested TFR to avoid "bow tie" depictions. The Interagency Airspace Coordination Guide describes further how flight restrictions are requested and implemented and can be found at the following website: http://www.airspacecoordination.net/

Temporary Flight Restrictions requests for all risk (non wildfire) incidents should be familiar with the FAA's Airspace Management Plan (AMP) for Disasters located at www.airspacecoordination.net under "Publications and Training."

## Military Training Routes and Special Use Airspace

Military Training Routes and Special Use Airspace that present conflicts with incident related aviation activities will be identified by local units. One source for this information is AP-1B, Flight Information Publication, "Military Training Routes." Each dispatch office should download a current edition of the AP-1B. Instructions for access can be found under "Airspace Coordination" at the following website: http://www.airspacecoordination.net/. Special Use Airspace may be found on Sectional Aeronautical Charts. Critical Airspace information pertinent to flight should be organized for easy and rapid utilization; i.e., displayed on dispatching hazard maps. Further direction may be obtained in the Interagency Airspace Coordination Guide.

## Airspace Conflicts

Consult the Interagency Airspace Coordination Guide.

## FAA Temporary Control Tower Operations

Geographic Areas within the FAA's Western Service Area (which includes the following states: AK, AZ, CA, CO, HI, ID, MT, NV, OR, UT, WA and WY) may request FAA Air Traffic Control support through the Western Service Area Agreement when Air Operations in support of an incident becomes complex or unsafe at uncontrolled airports or helibases. FAA Temporary Control Towers are ordered on an Aircraft Order. A lead time of 48 hours is desirable when ordering. Ordering procedures are outlined within the current agreement located at the airspace coordination website (www.airspacecoordination.net). The GACCs do not need to forward the request to NICC.

The Interagency agreement with the FAA requires that a Resource Order and a Temporary Tower Request form be forwarded to the FAA. The forms may be forwarded when the request is made by the GACC to the FAA's Regional Operations Center (ROC). The current Temporary Tower Request Form is located at www.airspacecoordination.net under forms. In addition, there is a helpful checklist in Chapter 11 of the Interagency Airspace Coordination Guide that aids in requesting a Temporary Tower.

## Dedicated Radio Frequencies

### FM, VHF, and UHF Frequencies:

NIRSC issues dedicated FM frequencies in conjunction with communication equipment assigned to incidents. NIRSC will order additional FM frequencies from DOI and FS, Washington Office, as conditions warrant. **To insure proper frequency coordination, the ordering office must include the Latitude and Longitude of the incident on the resource order.**

### AM Frequencies:

Initial attack AM air-to-air frequencies will be assigned by the NIFC Communications Duty Officer (CDO) after annual coordination with the FAA. The primary AM assignment is published at the beginning of the fire season. The secondary assignment for the zone, if pre-engineered, will reside under the control of the GACC. The secondary assignment can be quickly authorized for use by the zone through a request to the GACC. The tertiary assignment, if applicable, will remain with the CDO and its use authorized as conditions warrant. VHF AM assignments are used for air to air communications and are authorized only within the zone to which assigned. **IA assignments are not dedicated to project fires.**

**FM air-to-ground frequencies** will be facilitated and coordinated by the NIFC CDO in cooperation with the agency frequency managers with the intent to create permanent assignments. Both AM and FM assignments will be used on an interagency basis and master records of the assignments are maintained by the NIFC CDO. Updated frequency information for initial attack air to air, and air to ground is coordinated annually with the GACCs.

Incident requests for the use of dedicated Air-to-Air and Air-to-Ground frequencies will be made through established ordering channels to NICC and are filled by the NIRSC CDO. The CDO coordinates all National Cache FS and DOI frequencies as well as any additional frequencies released by other agencies for wildland fire support. Aviation frequencies are to be ordered on an Aircraft order as an "A" request.

Airtanker bases will monitor 123.975 VHF AM for aircraft contact. *(Airtanker bases in the Southwest and Southern Geographic Areas may be assigned alternate frequencies. Please reference local supplements for current frequency assignments.)* These frequencies are for National Airtanker Ramp use and not to be used for tactical or flight following purposes.

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